CODE ANALYSIS

APPLICABLE CODES	Year		Year
International Building Code	2006	National Electrical Code	
International Mechanical Code		Uniform Code for	
International Plumbing Code		Building Conservation	
International Fire Code		ADA Accessibility	
International Energy		Guidelines	
Conservation Code			

A. Occupancy and Group: _____

Change in Use: Yes _____ No _____ Mixed Occupancy: Yes _____ No _____

Special Use and Occupancy (e.g. High Rise, Covered Mall): _____

B. Seismic Design Category: _____ Design Wind Speed: _____ mph

C. Type of Construction (circle one):

I A | I B | II A | II B | III A | III B | IV HT | V A | V B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: _____ South: _____ East: _____ West: _____

E. Mixed Occupancies: _____ Nonseparated Uses: _____

F: Sprinklers:

Required: _____ Provided: _____ Type of Sprinkler System: _____

G: Number of Stories: _____ Building Height: _____

H: Actual Area per Floor (square feet): _____

I: Tabular Area: _____

J: Area Modifications:

a) $A_a = A_t + \left[\frac{A_t \, I_f}{100}\right] + \left[\frac{A_t \, I_a}{100}\right]$ $\qquad I_f = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$

c) Total Allowable Area for:

1) One Story: _____
2) Two Story: $A_a(2)$_____
3) Three Story: $A_a(3)$_____

d) Unlimited Area Building: Yes _____ No _____ Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

L. Design Occupant Load: _____

Exit Width Required: _____ Exit Width Provided: _____

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
b) Lavatories - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
c) Bath Tubs or Showers: _____
d) Drinking Fountains: _____ Service Sinks: _____

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:

a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.

State of Utah—Department of Administrative Services

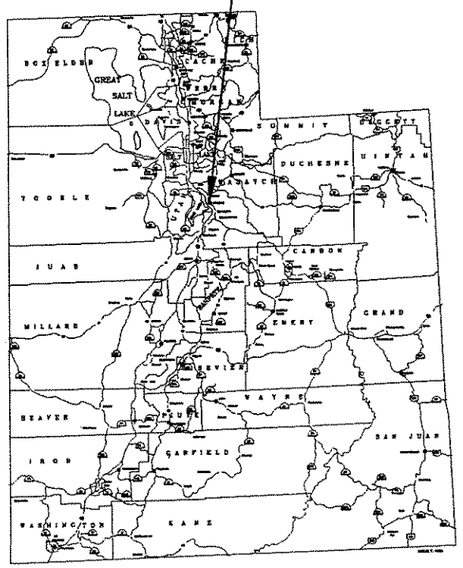
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building/Salt Lake City, Utah 84114/538-3018

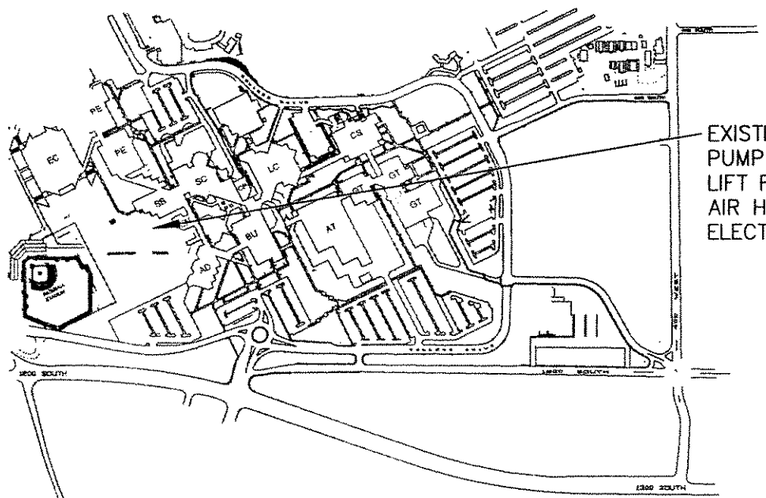
UTAH VALLEY STATE COLLEGE
VAULT IMPROVEMENTS
DFCM PROJECT NO. 07199790 P3

UTAH VALLEY STATE COLLEGE
800 WEST UNIVERSITY PARKWAY
OREM, UTAH

UTAH



VICINITY MAP



LOCATION MAP

NORTH

SHEET NUMBERING

SHEET	NAME
G-001	TITLE SHEET AND SHEET INDEX
C-101	TRAPDOOR LIFT REPLACEMENT
E0.01	GENERAL NOTES, ELECTRICAL SYMBOLS
E2.11	VAULT FLOOR PLAN
M001	MECHANICAL LEGEND
M002	MECHANICAL GENERAL NOTES
ME101	MECHANICAL VAULT PLAN
ME102	MECHANICAL GROUND LEVEL PLAN
ME601	MECHANICAL SCHEDULES
ME602	MECAHNICAL DETAILS

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179735
JONATHAN E. KING
STATE OF UTAH

SITE/LOCATION:

UTAH VALLEY
STATE COLLEGE

PROJECT TITLE:

UVSC VAULT
IMPROVEMENTS

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID DOCUMENTS

ISSUE DATE: JANUARY 22, 2008

DFCM PROJECT NO: 07199790 P3
CAD PROJECT NO:
CAD DWG FILE: KE1117NCSSHEET.DWG
DRAWN BY: JEK
CHK'D BY: JEK
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SHEET TITLE

TITLE SHEET

SHEET NUMBER

G-001

SHEET 1 OF 10

TRAPDOOR LIFT REPLACEMENT
UVSC OREM CAMPUS

TRAPDOOR LIFT REPLACEMENT AT EXISTING PUMP VAULT.

1. THE CONTRACTOR SHALL COMPLETELY DISCONNECT, REMOVE AND DISPOSE OF THE EXISTING FLOR TRAP DOOR (SIDEWALK TYPE)LIFT IN THE EXISTING PUMP VAULT. THE REMOVALS SHALL INCLUDE THE LIFT MECHANISM, MOTOR, CONTROL PANEL, ETC. THE CONTRACTOR SHALL LEAVE THE TRAP DOOR.

2. THE CONTRACTOR SHALL FURNISH AND INSTALL A REPLACEMENT LIFT WITH A PLATFORM SIZE OF 34" X 60 " (MATCHING THE EXISTING). THE APPROXIMATE RISE OF THE LIFT FROM THE FLOOR OF THE VAULT TO THE BOTTOM OF THE TRAPDOOR IS 11' 3 ½".

3. THE CONTRACTOR SHALL VERIFY ALL LIFT DIMENSIONS INCLUDING THE PLATFORM SIZE, MACHINE AND POWER FOOTPRINT AND VERTICAL RISE (DISTANCE FROM FLOOR OF EXISTING VAULT TO TOP OF EXISTING TRAPDOOR) BEFORE ORDERING REPLACEMENT. THE CONTRACTOR SHALL PROVIDE AND INSTALL A REPLACEMENT LIFT THAT SHALL FIT WITHIN THE ALLOWABLE SPACE AND TYPE OF POWER AVAILABLE.

4. THE REPLACEMENT LIFT SHALL HAVE A MAXIMUM LIFT CAPACITY OF 2000 POUNDS OR 1 TON.

5. THE REPLACEMENT LIFT SHALL BE OPERATED BY A 208 VOLT SINGLE PHASE 60 HERTZ MOTOR.

6. THE REPLACEMENT LIFT SHALL HAVE "CONSTANT PRESSURE" CONTROLS SO OPERATOR MUST KEEP BUTTON DEPRESSED FOR FULL CYCLE.

7. THE REPLACEMENT LIFT SHALL BE MANUFACTURED AND INSTALLED SUCH THAT THE EXISTING TRAP DOOR AUTOMATICALLY OPENS AS LIFT AND LOAD APPROACHES ITS LEVEL. THE LIFT AND PLATFORM SHALL BE CONFIGURED SUCH THAT ANY LOAD PLACED ON THE PLATFORM SHALL NOT IMPACT AGAINST THE UNDERSIDE OF THE TRAP DOOR BEFORE IT IS OPENED. THE REPLACEMENT LIFT SHALL AUTOMATICALLY STOP AT THE TRAPDOOR LEVEL.

8. POWER TO THE REPLACEMENT LIFT SHALL BE CAPABLE OF BEING TURNED OFF AND LOCKED OUT TO AVOID ANY UNAUTHORIZED OPERATION OR ACCIDENTS.

9. THE FOLLOWING COMPANIES ARE APPROVED SUPPLIERS OF TRAP DOOR (SIDEWALK TYPE) LIFTS. THE CONTRACTOR MAY CONTACT OTHER SUPPLIERS AT HIS DISCRETION.

FLORLIFT 1-800-752-5438
NEWARK, N.J.

GIANT LIFT EQUIPMENT MFG. CO. INC. 1-800-52-GIANT
NORTH HAMPTON, NH

GILLESPIE CORPORATION 1-413-967-4980
WARE, MA

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DFCM PROJECT NO: 07199790 P3
CAD PROJECT NO:
CAD DWG FILE: C-101.DWG
DRAWN BY: AD
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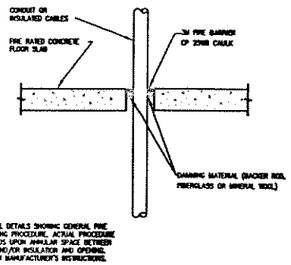
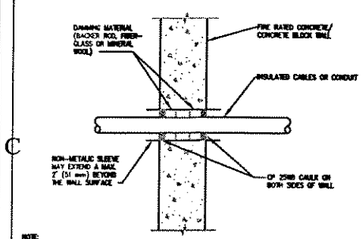
SHEET TITLE
TRAPDOOR LIFT REPLACEMENT

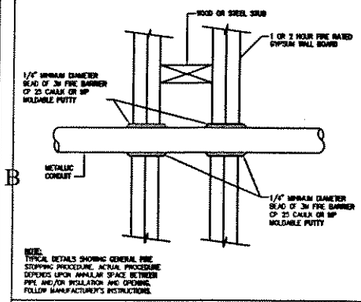
SHEET NUMBER
C-101



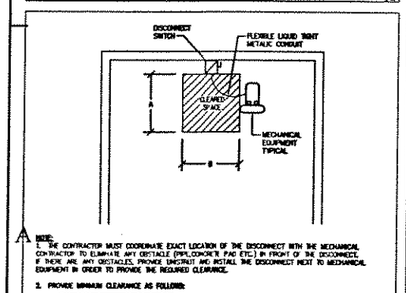
TYPICAL FIRESTOP FOR CABLES/CONDUIT THROUGH CONCRETE FLOORING



TYPICAL FIRESTOP FOR CABLES/CONDUIT THROUGH CONCRETE WALLS

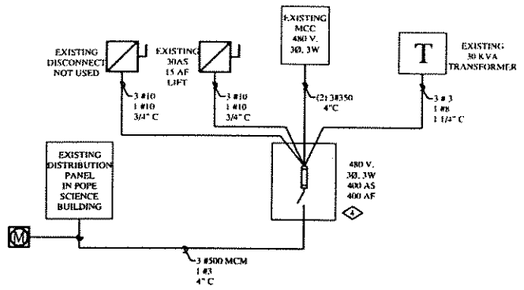


FIRESTOP FOR METAL CONDUIT THROUGH GYPSUM WALL BOARD

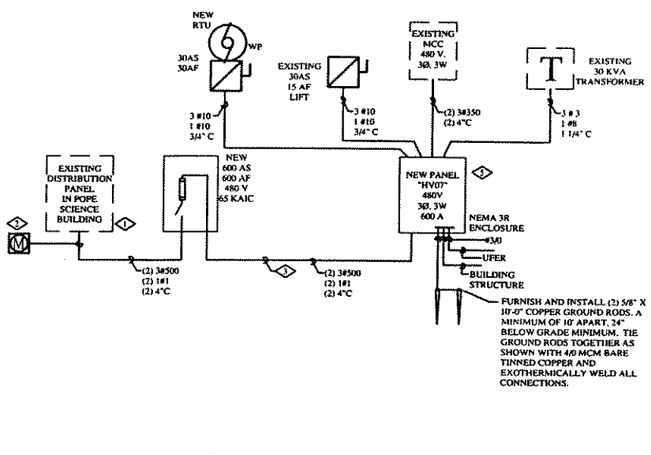


SYSTEM VOLTAGE	A	B
480	42"	30"
208	36"	30"

TYPICAL DISCONNECT CLEARANCE REQUIREMENTS



EXISTING POWER SINGEL LINE DIAGRAM



NEW POWER SINGEL LINE DIAGRAM

POWER SINGLE LINE DIAGRAM

REFERENCE NOTES:

1. TAP THE EXISTING 1200AMP BUS BARS TO FEED THE NEW DISCONNECT SWITCH. MAKE ANY MODIFICATIONS NECESSARY. FIELD VERIFY PRIOR TO BID. ALL DOWN TIME SHALL BE DONE AFTER HOURS AND BE COORDINATED WITH THE OWNER.
2. PROVIDE NEW 600 AMP CT'S TO GO AROUND THE NEW CONDUCTORS. UTILIZE THE EXISTING METER IF POSSIBLE. PROVIDE NEW METER OTHERWISE.
3. RUN A NEW 4" CONDUIT IN PARALLEL TO THE EXISTING 4" CONDUIT IN THE POPE SCIENCE BUILDING. THE NEW CONDUIT SHALL FOLLOW THE EXISTING CONDUIT. UTILIZE THE (2) 4" UNDERGROUND CONDUITS FROM THE POPE SCIENCE BUILDING AND THE VAULT. EXTEND THE CONDUITS TO THE NEW PANEL "HV07". RUN NEW CONDUCTORS FROM THE NEW DISCONNECT SWITCH TO THE NEW PANEL "HV07". FIELD VERIFY AND PROVIDE ADDITIONAL CONDUIT, CONDUCTORS, J-BOX, ETC. FOR A COMPLETE INSTALLATION. FIELD VERIFY PRIOR TO BID.
4. EXTEND ALL EXISTING CIRCUITS TIED TO THE EXISTING DISCONNECT SWITCH TO THE NEW PANEL "HV07". PROVIDE CONDUIT, CONDUCTORS, CIRCUIT BREAKERS, ETC. FOR A COMPLETE INSTALLATION. FIELD VERIFY PRIOR TO BID.
5. MOUNT THE PANEL BOARD SEMI-FLUSHED IN THE CONCRETE WALL WITH MAXIMUM OF 3" STICKING OUT FROM THE WALL. THE APPROXIMATE DIMENSION FOR A SIEMENS GEAR IS 27 1/2" W x 10" D x 68" H.

Panel "HV07"

Amps 600 Main Breaker Volts 480 Phase 3 Wires 3

Circuit	Breaker Size	Pole	VA	Equipment or Area Served	Remarks
1	600	3		MAIN BREAKER	
2	400	3		MCC	
3	90	3		30 KVA TRANSFORMER	
4	20	3		EXISTING LOAD	
5	30	3		EXISTING LOAD	
6	30	3		RTU-1	
7	100	3		SPARE	
8	30	3		SPARE	
9	20	2		SPARE	
10	30	2		SPARE	
11	50	3		SPARE	
12				SPACE	
13				SPACE	
14				SPACE	

"To be 600 amp, 3 phase,480 volts with NEMA 3R enclosure, half size ground bus. Double row branch circuit breakers mounting space. Switchboard shall be braced for minimum of 22,000 AIC."

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	LIGHTING SYMBOLS
◇	REFERENCE NOTE CALLOUT
$	SINGLE POLE TOGGLE SWITCH - 20 AMP
$a,b	SINGLE POLE TOGGLE SWITCH - 20 AMP, LETTERS INDICATE SWITCH ASSIGNMENT
$3	THREE WAY TOGGLE SWITCH - 20 AMP
$'a,b	SINGLE POLE PILOT SWITCH - 20 AMP, LETTERS INDICATE SWITCH ASSIGNMENT
	POWER SYMBOLS
⊕	DUPLEX CONVENIENCE OUTLET - 20 AMP
⊕	DUPLEX CONVENIENCE OUTLET - 20 AMP GFI. DO NOT PROTECT DOWNSTREAM GFI OUTLETS.
——	ARROWS INDICATE HOME RUNS - NUMBER OF CONDUCTORS AS REQUIRED
	FUSED DISCONNECT SWITCH - SIZE AS REQUIRED
△	FLUSH TELEPHONE/DATA OUTLET
▲	FLUSH TELEPHONE OUTLET
△	FLUSH DATA OUTLET
Ⓜ	MOTOR LOCATION
XX-1	MECHANICAL EQUIPMENT CALLOUT
	MANUAL DISCONNECT WITH THERMAL OVERLOAD PROTECTION
ZZZZ	ELECTRICAL PANEL LOCATION
M	ELECTRICAL METER LOCATION
	GENERAL NOTE SYMBOLS
WP	INDICATES WEATHER PROOF EQUIPMENT
A	INDICATES DEVICE IS ABOVE COUNTER TOP-42" AFF REFER TO ARCHITECTURAL ELEVATION
WG	INDICATES DEVICES WITH LOW PROFILE WIREGUARD. SUBMIT APPROVAL
CLG	INDICATES DEVICES MOUNTED ON THE CEILING. COORDINATE LOCATION WITH THE ARCHITECT

GENERAL NOTES:

1. MINIMUM SIZE OF CONDUIT IS 3/4". A 1/2" CONDUIT MAY BE USED FOR CONTROL CABLES.
2. USE RIGID STEEL, SET SCREW TYPE FITTINGS ONLY. DIE CAST FITTING SHALL NOT BE USED.
3. ALL NEW WORK MUST MEET THE CURRENT ADOPTED NATIONAL ELECTRICAL CODE.
4. NOT MORE THAN THREE (3) CIRCUITS SHALL BE INSTALLED IN A 3/4" CONDUIT.
5. THE SIZE OF THE NEUTRAL CONDUCTORS SHALL BE A NO. 10 AWG FOR ALL HOMERUNS WITH A COMMON NEUTRAL (LIGHTING AND POWER CIRCUITS).
6. THE MINIMUM SIZE OF THE CONDUCTORS SHALL BE A NO. 12 AWG, THHN COPPER. UNLESS INDICATED OTHERWISE N THE DRAWINGS.
7. ALL PANELBOARDS SHALL HAVE FULL SIZED ISOLATED NEUTRAL AND GROUNDED BUSBAR.
8. ALL J-BOXES SHALL HAVE A MINIMUM DEPTH OF 2-1/8" UNLESS OTHER WISE SPECIFIED. SECURE ALL J-BOXES AS SHOWN IN THE DETAILS. FURNISH AND INSTALL PROPER MUD RINGS.
9. ALL THE HOMERUNS MUST BE ACCESSIBLE. DO NOT CARRY A HOMERUN FROM ONE DEVICE TO ANOTHER WHICH IS TIED TO A SEPARATE HOMERUN INSIDE THE WALL. MARK ON ALL THE J-BOXES THE CIRCUIT NAMES AND NUMBERS. USE NO. 10 THHN CONDUCTORS FOR HOMERUNS OVER 100 FEET IN LENGTH, NO. 8 THHN FOR OVER 200 FEET, AND NO. 4 THHN FOR OVER 400 FEET.
10. USE EPOXY ANCHORS TO SUPPORT THE ELECTRICAL EQUIPMENT. EXPANSION ANCHOR BOLTS ARE NOT ACCEPTABLE.
11. AT THE END OF THE JOB, PROVIDE BLANK, MATCHING COVERPLATES FOR ALL J-BOXES WHERE DEVICES HAVE NOT YET BEEN INSTALLED.
12. SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS WITH A FIRE RATED MATERIAL. 3M IS AN APPROVED MANUFACTURER.
13. ALL DISCONNECTS SHALL BE OF A HEAVY DUTY TYPE.
14. ALL MATERIALS USED IN INSTALLATION SHALL BE U.L. APPROVED AND NEW.
15. ALL ELECTRICAL WIRING MUST BE IN A CONDUIT (ROMEX NOT PERMITTED).
16. NO CONDUITS SHALL RUN IN DUCT WORK.
17. PRIOR TO SUBMITTAL FOR A BID THE ELECTRICAL CONTRACTOR SHALL INSPECT THE SITE AND INCLUDE IN THEIR BID PACKAGE ALL CHARGES DUE TO EXISTING CONDITIONS. SHOP DRAWINGS ARE REQUIRED. ALL LABOR, MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF 1 YEAR FROM THE DATE OF ACCEPTANCE BY THE TENANT. REPLACE OR REPAIR ALL DEFECTS DURING THE GUARANTEED PERIOD.
18. THE ELECTRICAL CONTRACTOR SHALL TERMINATE THE ELECTRICAL COLLECTIONS TO ALL THE EQUIPMENT BY PROVIDING THE NECESSARY MALE/FEMALE CONNECTOR, RECEPTACLE, PLUG, ETC.
19. ALL DUPLEX OUTLETS AND SWITCHES SHALL BE 20 AMP., 120 VOLT SPEC GRADE. HUBBELL AND PASS & SEYMOUR AND LOCATION ARE APPROVED MANUFACTURERS.
20. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE MECHANICAL CONTRACTOR SO THAT NO PIPING, DUCTS, OR OTHER EQUIPMENT SHALL BE INSTALLED IN THE ENTRY, PASS THROUGH ELECTRICAL ROOM OR SPACES ABOVE OR BELOW ELECTRICAL PANELS.
21. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENT, ETC.) OF EQUIPMENT FURNISHED UNDER OTHER DIVISIONS WITH APPROVED SHOP DRAWINGS.
22. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ ENGINEER, IN WRITING, OF ANY DISCREPANCIES FOUND BETWEEN THE INTENDED FUNCTION OF EQUIPMENT AND EQUIPMENT SPECIFIED IN THE CONTRACT DOCUMENTS WITH A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL ADDENDUM. FAILURE TO REPORT ANY DISCREPANCY(CATALOG NUMBERS, DISCONTINUED ITEMS, ETC.) DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING EQUIPMENT WHICH SHALL CONFORM TO AND FULFILL THE INTENT OF THE CONTRACT DOCUMENTS. NOR SHALL IT BE USED AS A CONDITION TO OBTAIN ADDITIONAL FUNDS FROM THE OWNER AFTER THE CONTRACT IS AWARDED. THE CONTRACTOR SHALL REQUEST ALL CLARIFICATIONS OF CONTRACT DOCUMENT REQUIREMENTS, IN WRITING, TO THE ARCHITECT/ ENGINEER WITH A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL ADDENDUM.
23. PROVIDE A TYPED LABEL FOR ALL DUPLEX OUTLETS AND LIGHT SWITCHES TO INDICATE WHICH CIRCUIT THEY ARE TIED TO.
24. SWITCHBOARDS, PANELBOARDS, AND MOTOR CONTROL CENTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSON'S BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. (NEC 110-16)
25. CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE OVER SHOP DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
26. DETAILS ARE SHOWN ON DIFFERENT SHEETS. THE CONTRACTOR SHALL REFER TO THOSE DETAILS WHETHER OR NOT CALLED IN REFERENCE NOTES.
27. PROVIDE WARNING TAPE OVER ALL UNDERGROUND POWER CABLES SHOWN ON SITE PLAN.
28. ALL DISCONNECTS, J-BOXES, AND CONDUITS EXPOSED TO THE OUTSIDE WEATHER SHALL BE OF A NON-CORROSIVE, WEATHER PROOF TYPE.
29. ALL UNDERGROUND CONDUITS SHALL BE BURIED 24 INCHES MINIMUM UNDER THE GROUND.
30. THE FIRST 10 FEET OF ALL BURIED CONDUITS, 1 INCH AND OVER IN DIAMETER, ARE TO BE RIGID GALVANIZED STEEL WHERE THEY ARE ENTERING OR LEAVING THE BUILDING, MAN-WHOLE, VAULT, ETC. ALL METALLIC UNDERGROUND CONDUITS SHALL HAVE PVC COATING.
31. ALL NEW EXPOSED CONDUITS MUST RUN AGAINST THE WALL OR CEILING. DO NOT PENDANT MOUNT ANY CONDUIT FROM THE CEILING.
32. ALL CONDUITS EXPOSED TO THE WEATHER AND IN THE EXISTING VAULT SHALL BE GALVANIZED RIGID STEEL UNLESS OTHER WISE NOTED.
33. ALL METALLIC CONDUITS, JOINTS, FITTINGS, ETC. IN CONTACT WITH THE GRIND SHALL BE SPIRALLY WRAPPED WITH 3M SCOTCHRAP-51, 20 MIL TAPE (OR APPROVED EQUAL). 1/2" OVERLAP IS REQUIRED.

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Fax: 801.990.3293
Internet: www.pavementmanagement.com

CREATED BY: KING ENGINEERING, INC.

SITE/LOCATION:
UTAH VALLEY STATE COLLEGE

PROJECT TITLE:
UVSC VAULT IMPROVEMENTS

MARK	DATE	DESCRIPTION

ISSUE TYPE: BID DOCUMENTS

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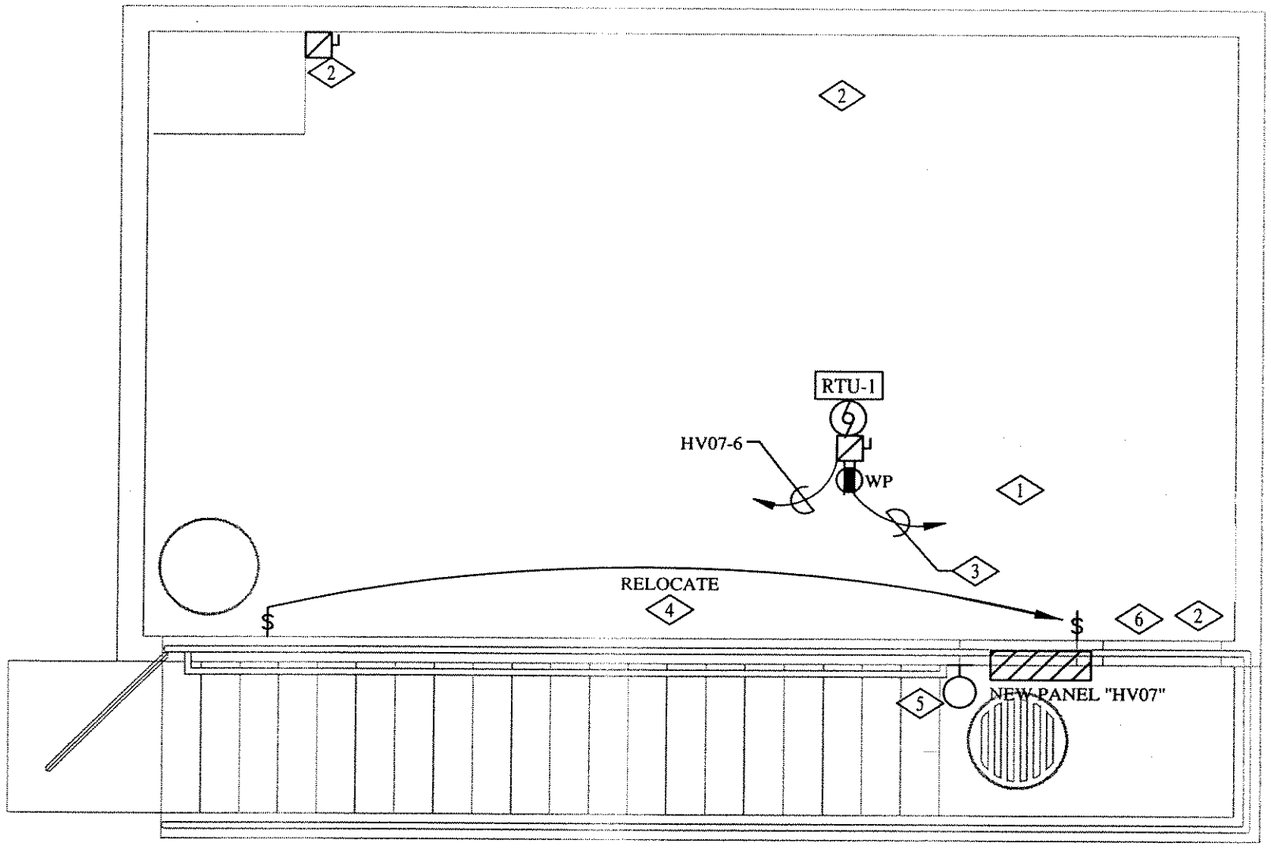
SHEET TITLE
GENERAL NOTES, ELECTRICAL SYMBOLS, PANELS

SHEET NUMBER
E0.01

EELD
1220 SOUTH 300 WEST (801) 484-2222
SALT LAKE CITY, UTAH 84101 (801) 474-EELD fax



VAULT FLOOR PLAN - POWER
SCALE : 1/4"= 1'-0"

REFERENCE NOTES: POWER

1. DISCONNECT THE POWER AND REMOVE EXISTING 400AMP DISCONNECT SWITCH. EXTEND ALL THE CIRCUITS TIED TO THIS DISCONNECT TO THE NEW PANEL "HV07". PROVIDE CONDUIT CONDUCTORS CIRCUIT BREAKER, ETC FOR A COMPLETE INSTALLATION FIELD VERIFY. REFER TO THE POWER SINGLE LINE DIAGRAM.

2. FEED THE EXISTING MCC, TRANSFORMER, DISCONNECT SWITCH, ETC FROM THE NEW PANEL. PROVIDE ADDITIONAL CONDUIT CONDUCTORS, ETC FOR A COMPLETE INSTALLATION REFER TO THE POWER SINGLE LINE DIAGRAM. RUN CONTINUOUS CONDUITS. DO NOT SPLICE.

3. TIE THE DUPLEX OUTLET TO THE NEAREST 120 VOLT, 20 AMP CIRCUIT.

4. RELOCATE EXISTING LIGHT SWITCH AND THE ASSOCIATED CIRCUIT TO THE NEW LOCATION SHOWN. PROVIDE ADDITIONAL CONDUIT, CONDUCTORS, ETC FOR A COMPLETE INSTALLATION. FIELD VERIFY

5. FURNISH AND INSTALL A NEW EXTERIOR WALL MOUNTED LIGHT FIXTURE IN THE APPROXIMATE LOCATION SHOWN. TIE THE LIGHT FIXTURE TO THE NEAREST 120 VOLT LIGHTING CIRCUIT. FURNISH AND INSTALL A NEW COMMERCIAL GRADE WEATHER PROOF WALL MOUNTED MOTION SENSOR TO CONTROL THE EXTERIOR LIGHT FIXTURE. ADJUST THE MOTION SENSOR SO IT ONLY DETECTS BODY GOING DOWN THE STAIRS. COORDINATE WITH THE UVSC FOR MORE INFORMATION. THE LIGHT FIXTURE SHALL BE EQUAL TO FAIL-SAFE CAT#RVS-12-42CF-DT-BK.

6. RE-ROUTE EXISTING CONDUIT, CONDUCTORS, ETC. TO ALLOW THE INSTALLATION OF THE NEW DOORWAY. PROVIDE ADDITIONAL CONDUIT, CONDUCTORS, ETC. FOR A COMPLETE INSTALLATION. COORDINATE THIS WORK WITH THE GENERAL CONTRACTOR.

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Internet: www.pavementmanagement.com

CREATED BY: KING ENGINEERING, INC.

LICENSED PROFESSIONAL ENGINEER — NO. 334645-2202 — BARRETT AMBLER — STATE OF UTAH
1/18/08

SITE/LOCATION:
UTAH VALLEY STATE COLLEGE

PROJECT TITLE:
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SHEET TITLE
VAULT FLOOR PLAN - POWER

SHEET NUMBER
E2.11

EELD
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MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY		
A / ME-101		SECTION LETTER DESIGNATION / SECTION DRAWN ON THIS SHEET
A2		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION
1 / AH		MECHANICAL EQUIPMENT DESIGNATION / EQUIPMENT ITEM DESIGNATION
CFM / D-1		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW
R-1		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRE
1		REVISION DESIGNATOR AND NUMBER
1		KEY NOTE DESIGNATOR AND NUMBER
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL
GC		GENERAL CONTRACTOR
MC		MECHANICAL CONTRACTOR
ATC		CONTROL CONTRACTOR
EC		ELECTRICAL CONTRACTOR

SYMBOL	ABR.	DESCRIPTION
AIR SIDE		
		EXISTING AIR DUCT TO REMAIN
		NEW AIR DUCT
		RECT. TO RECT. AIR DUCT TAKE-OFF
		RECT. TO RND. AIR DUCT TAKE-OFF
		RND. TO RND. AIR DUCT TAKE-OFF
		RECT. TAKE-OFF AT END OF MAIN
		FLEXIBLE AIR DUCT
		LINED DUCT
		VANED ELBOW
		RADIUS ELBOW
VD		VOLUME DAMPER
		SUPPLY AIR DIFFUSER
		RETURN AIR, FRESH AIR, AND TRANSFER AIR
		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE
		RETURN OR OUTSIDE AIR DUCT UP
		SUPPLY DUCT UP
		EXHAUST AIR INTAKE UP
		EXISTING EQUIPMENT TO BE REMOVED
		EXISTING EQUIPMENT TO REMAIN
		NEW EQUIPMENT

SYMBOL	ABR.	DESCRIPTION
AIR SIDE CONT.		
M	MVD	MOTORIZED VOLUME DAMPER
BD	BD	BACKDRAFT DAMPER
F	FD	FIRE DAMPER
R	RD	RADIATION TYPE FIRE DAMPER
S	SD	SMOKE DAMPER
FS	FS	FIRE & SMOKE DAMPER
T / RTU-1	T-STAT	WALL MOUNTED THERMOSTAT MECHANICAL EQUIPMENT CONTROLLED
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
MA		MIXED AIR
FA		FRESH AIR
RF		RELIEF AIR

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PROJECT TITLE:
UVSC VAULT IMPROVEMENTS

PROFESSIONAL ENGINEER
01-18-08
WINWARD M. PACKER
No. 375080
STATE OF UTAH

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MECHANICAL LEGEND

M001

SHEET **5** OF **10**

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.

G-7 PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN.

G-8 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-9 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-10 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-11 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

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MECHANICAL GENERAL NOTE

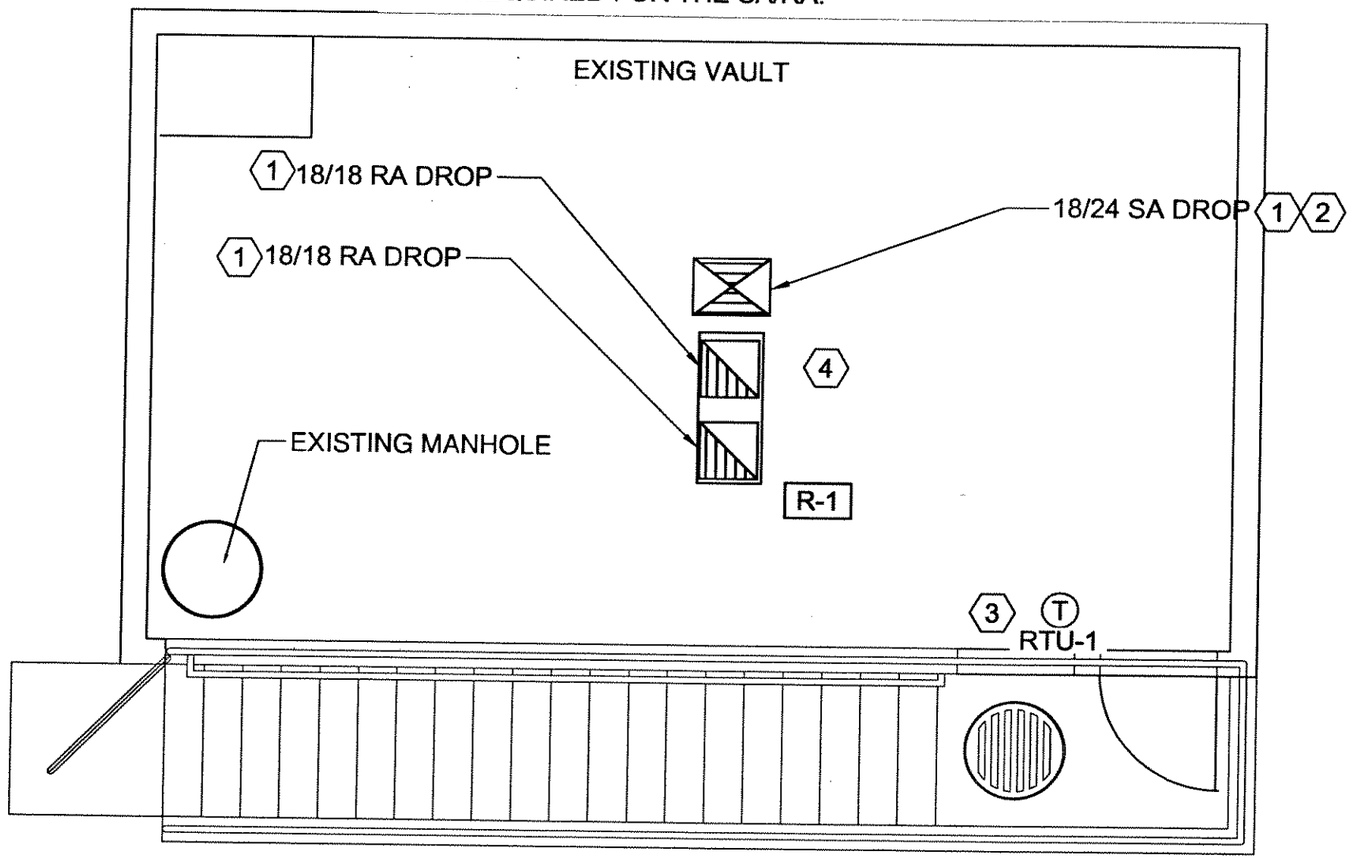
M002

STRUCTURAL NOTES FOR GC:

1. THE EXISTING SLAB IS SPECIFIED AS A 10" CONCRETE SLAB REINFORCED WITH A BOTTOM MAT OF #6 @ 12"OC IN THE SHORT DIRECTION AND #4@ 12"OC IN THE LONG DIRECTION, AND A TOP MAT OF #4 AT 10"OC IN EACH DIRECTION.
2. THE LOCATION OF THE #6 AT 12"OC MUST BE LOCATED BY NON-DESTRUCTIVE TESTING, I.E. X-RAYS OR ULTRASOUND.
3. THE 18" WIDE PENETRATIONS FOR THE SA AND RA SHALL BE CENTERED BETWEEN THE #6 BARS SO THAT ONLY ONE BAR IS CUT.
4. NO OVER CUTS ARE ALLOWED FOR THESE SLAB PENETRATIONS. THE CORNERS OF THESE PENETRATIONS SHALL BE CORE DRILLED AND CHIPPED SQUARE AS REQUIRED FOR THE SA/RA.

SHEET NOTES:

1. COORDINATE WITH GC TO LOCATE POSITION OF SA AND RA DROPS WITH STRUCTURAL NOTES ON THIS SHEET AND EXISTING CONDITIONS AT VAULT CEILING LINE.
2. PROVIDE SCREEN OVER SUPPLY OPENING INTO VAULT.
3. COORDINATE EXACT LOCATION OF THERMOSTAT WITH USER AND EXISTING CONDITIONS.
4. TRANSITION AS REQUIRED IN ROOF TOP UNIT CURB.



MECHANICAL VAULT PLAN

SCALE: 1/4" = 1'-0"

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MECHANICAL VAULT PLAN

ME101

SHEET 7 OF 10

STRUCTURAL NOTES FOR GC:

1 THE EXISTING SLAB IS SPECIFIED AS A 10" CONCRETE SLAB REINFORCED WITH A BOTTOM MAT OF #6 @ 12"OC IN THE SHORT DIRECTION AND #4@ 12"OC IN THE LONG DIRECTION, AND A TOP MAT OF #4 AT 10"OC IN EACH DIRECTION.

2 THE LOCATION OF THE #6 AT 12"OC MUST BE LOCATED BY NON-DESTRUCTIVE TESTING, I.E. X-RAYS OR ULTRASOUND.

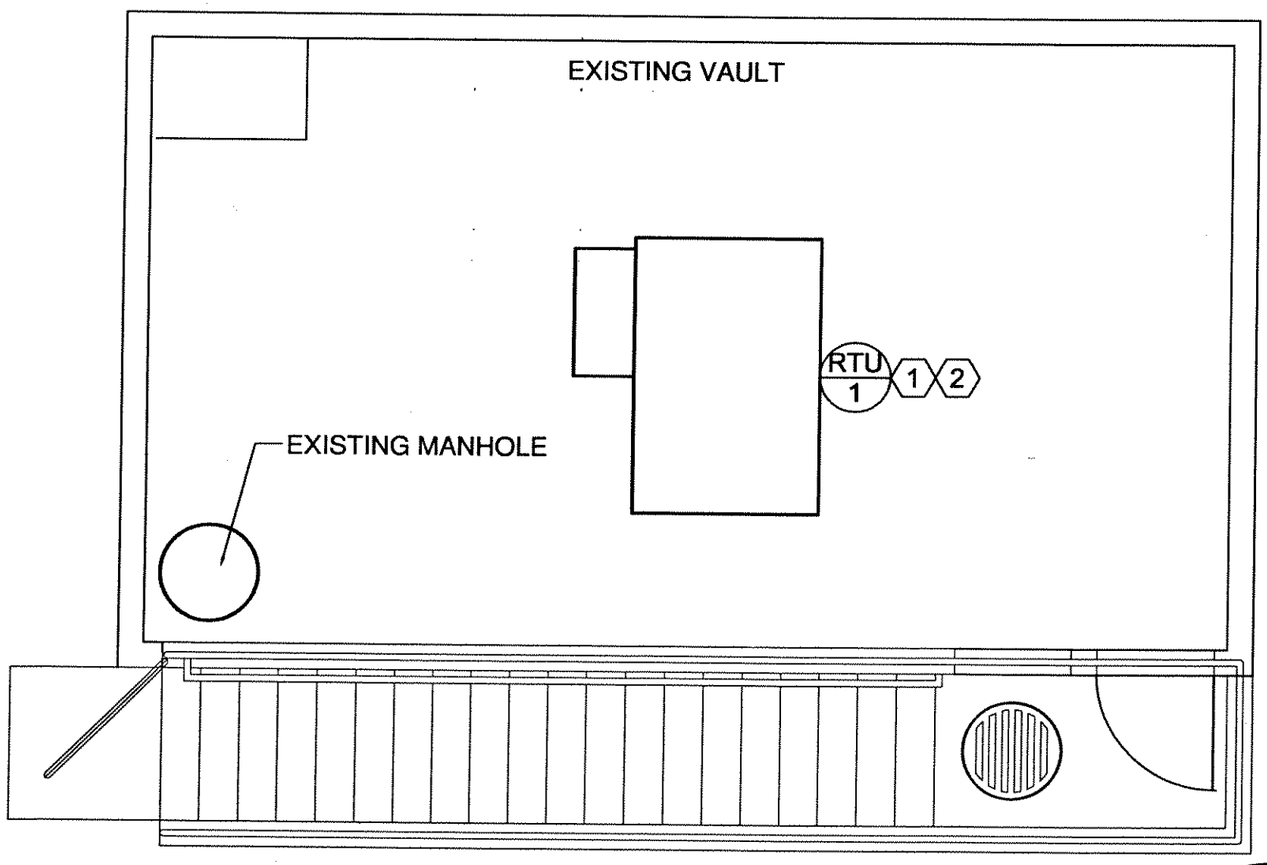
3 THE 18" WIDE PENETRATIONS FOR THE SA AND RA SHALL BE CENTERED BETWEEN THE #6 BARS SO THAT ONLY ONE BAR IS CUT.

4 NO OVER CUTS ARE ALLOWED FOR THESE SLAB PENETRATIONS. THE CORNERS OF THESE PENETRATIONS SHALL BE CORE DRILLED AND CHIPPED SQUARE AS REQUIRED FOR THE SA/RA.

SHEET NOTES:

(1) APPROXIMATE LOCATION OF RTU. EXACT POSITION TO BE DETERMINED BY LOCATIONS OF REBAR IN CONCRETE. SEE STRUCTURAL NOTES.

(2) COORDINATE WITH GC TO MODIFY LANDSCAPING TO ACCOMMODATE NEW RTU AND CURB.



MECHANICAL GROUND LEVEL PLAN

SCALE: 1/4" = 1'-0"

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MECHANICAL GROUND LEVEL PLAN

ME102

SHEET 8 OF 10

ROOFTOP AIR CONDITIONER SCHEDULE (COOLING ONLY)

SYMBOL	MNFC & MODEL NUMBER	SA CFM	OSA CFM	E.S.P. IN W.G.	HEATING	COOLING			ELECTRICAL						EER/ SEER	OPER. WT. (LBS)	SCHEDULE NOTES
					TOT. MIN. INPUT MBH	AMB. AIR (DB)	AMB. AIR (WB)	MIN. TOTAL MBH	V - Ø - Hz	CMPRSR #	COMPRESSOR TOTAL RLA	COMPRESSOR TOTAL LRA	MCA	MOCP			
RT 1	CARRIER 50HJ008	3000	750	.4	N/A	95	65	88	480-3-60	2	6.4 6.4	44 44	21.9	25	11	1150	1,2,3,4,5,6

1. E.S. P. DOES NOT INCLUDE LOSSES THROUGH ACCESSORIES.
2. RATED MINIMUM INPUT AT SEA LEVEL.
3. PROVIDE ONE 15 AMP, 120 VOLT, DUPLEX GFCI SERVICE OUTLET. FACTORY INSTALLED, FIELD WIRED.
4. BELT DRIVE UNIT.
5. PROVIDE SMOKE DETECTOR IN SUPPLY AND RETURN AIR FOR ALL UNITS OVER 2000 CFM.

REGISTER, LOUVER & GRILLE SCHEDULE

SYMBOL	TYPE	SERVICE	MAX CFM	NOMINAL SIZE	THROAT SIZE	CEILING TYPE	SCHEDULE NOTES
R-1	CEILING	RETURN	180	48/20	48/20	N/A	1,2,3,4

REGISTER. LOUVER AND DIFFUSER SCHEDULE NOTES:

1. MAXIMUM NC = 25 @ MAXIMUM CFM NOTED.
2. SHALL BE PRICE 535 OR EQUAL BY OTHER APPROVED MANUFACTURERS.
3. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
4. FINISH SHALL BE STANDARD WHITE.

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MECHANICAL SCHEDULES

ME601

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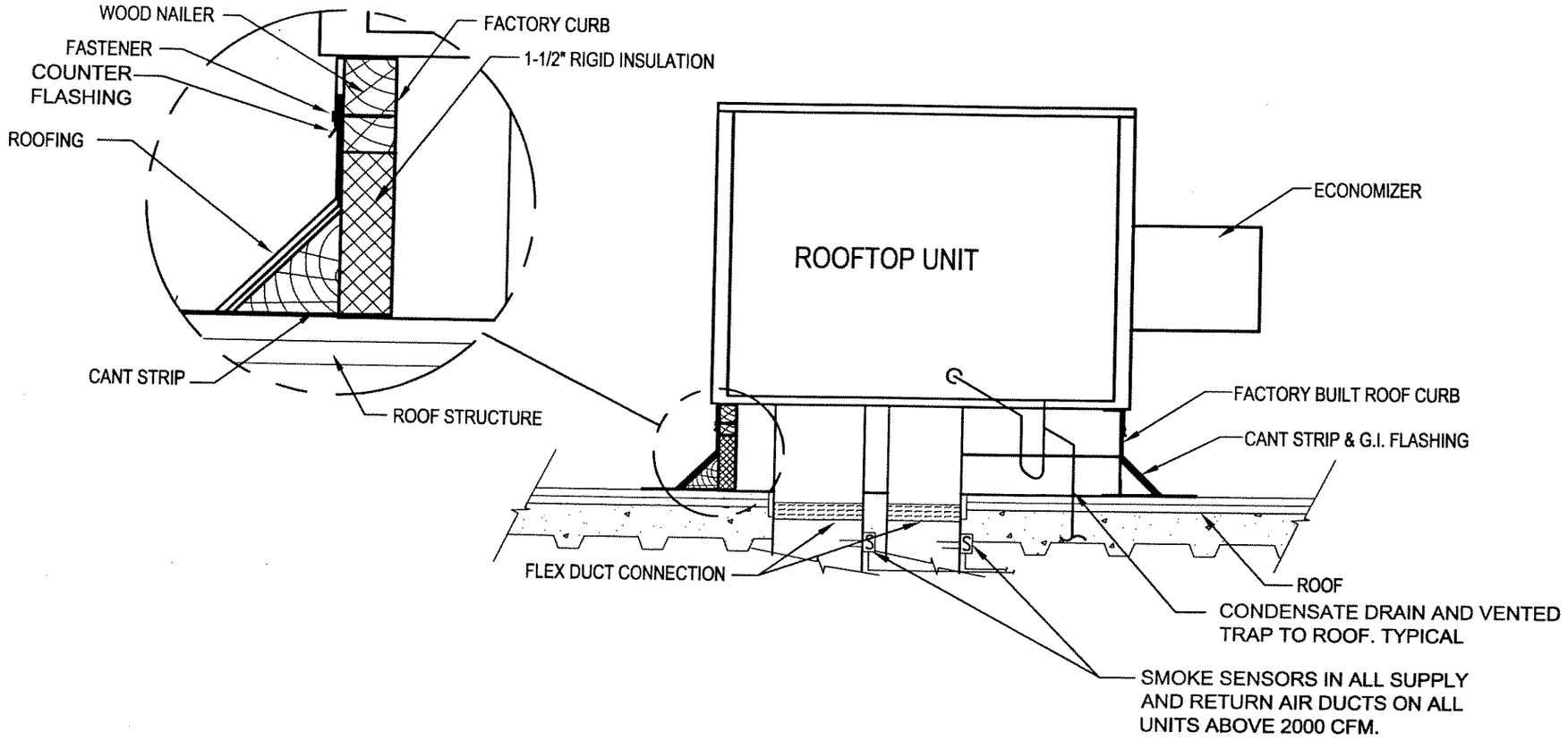

B3 ROOFTOP UNIT DETAIL

SCALE: NONE

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MECHANICAL DETAILS

ME602

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